



Resources for Students' Educational and Research Activities

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Abstract: *The article deals with the specificity of students' teaching and research activity; a comparison of the structural components of individual cognitive style and components of teaching and research activity is carried out. The developmental functions of teaching and research activities of students are considered. The comparison of research and learning activities, research and project research activities of students is carried out.*

Keywords: *Competency-Based Approach, Individual Cognitive Style, Learning and Research Activities.*

1. INTRODUCTION

In the context of progressive implementation of competency-based model in the system of higher professional education, the problem of individualization of students' professional development as an effective basis for achieving the competence-based format of educational results becomes very topical. It is necessary to intensify efforts to form students' individual experience of professionally oriented activity, to develop individual mechanisms for students' knowledge acquisition, their ability to independently build up cognitive experience and translate it into the format of competences. Experience, however, shows that in pedagogical science the issues of individualization of learning are put, mainly, in relation to the practice of general or primary education, are interpreted either from the position of individual work in the classroom-lesson system, or from the position of developmental learning in general and, accordingly, do not properly emphasize the problem of the style of cognitive activity of students. We propose to solve the problem of individualization of students' professional development through the formation of individual cognitive style of students in the process of their educational and research activity. We consider the educational-research activity in this way because it generates all three main components of cognition: intellectual, emotional, and volitional. The research and learning activity is maximally connected with the factor of learning and, unlike project-research or research activity, it is focused on the subjective intellectual experience of the student.



In addition, interpenetration of the essence of research in the essence of learning creates favorable situations of balance of biopsychic, social and spiritual components of individual cognitive style, being the main basis for the study of pedagogical conditions of formation of individual cognitive style of students in the process of teaching and research activity. At the present stage of development of higher professional education students' teaching and research activity acquires a status not typical for it before, which accumulates both students' experience in the development of cognitive interests, and the experience of their application of cognitive methods (including inter- and meta subject connections), and the experience of intellectual creativity, involving self-diagnostics of the thinking toolkit of cognitive activity.

2. MATERIALS AND METHODS

According to the above mentioned, teaching and research cannot be identified with research activities, because this leads to the neutralization of its key component, which is teaching. Even though the connection between these types of activities is obvious and lies in their productive nature, we have no right to substitute one concept for another, as E.V.Klimkina, for example, admits. E. Klimkina, in particular, uses the notion of "educational- scientific activity", the content of which includes students' participation in student scientific circles, preparation of speeches at student scientific conferences, submission of works for competitions, etc. For us all these are the forms of learning and research activity, at least, until we are talking about students getting not subjectively significant, but objectively significant scientific result.

The student, through intellectual self-realization, carries out all other socially significant movements (social adaptation, social and professional self-determination, spiritual and moral development, etc.) in educational and research activity. The deeper meanings of learning are intensified here, and the understanding of learning as a factor of socialization, as a condition of connection between individual and social consciousness, becomes relevant. Seeing learning as a system of purposeful, desirable, from the point of view of social needs, conditions of social experience transfer, we emphasize once again that the main thing in learning and research activity is not scientific novelty, but systemic changes in human behavior, formation of his experience, formation of an individual cognitive style. It can be rightly argued that no other type of activity is so close to the individual needs of a person. The learning format of exploratory behavior is as close as possible to the individual developing his or her own ways of working with information, ways of thinking, memory, etc. Developing individual cognitive abilities in learning, a person simultaneously develops his speech, developing a special conceptual language of thinking. Educational and research activity stimulates the choice of cognitive position, in which the cognitive subject feels free and responsible.

Thinking subject, thinking and knowledge intersect organizationally in the process of learning and research activity. The subject's personal, individually personal volitional effort to cognition is actualized. Research learning behavior develops the very components of learning and research activity. Referring to A. M. Novikov, it can be argued that in educational and research activity a person, "acting in accordance with objective laws and existing circumstances, determining the reality and achievability of the goal", acquires new necessary



knowledge, improves them and makes them, finally, the means of further life experience. Specificity of teaching and research activity can be illustrated by another comparison, namely the comparison with the project-research activity. Having chosen the former comparison parameter (teaching parameter), let us turn to the arguments of A. S. Sidenko, who presented project activity as an innovative element of pedagogical practice. A.S. Sidenko distinguishes between project and research activities by the object of activity, subject, and orientation. The scientist shows that the project is aimed at a comprehensive and systematic study of practice problems, and research - at finding a way to solve the problem.

3. RESULT AND DISCUSSION

A person developing and (or) implementing a project is not just looking for something new, he/she is solving a real problem. The research activity is initially more free, practically not regulated by any external regulations, therefore it is much more flexible, there is more room for improvisation.

The project-research activity is distinguished by maximum activation of subjective motives of cognition, development of individual cognitive position and self-determination of a student in research tools. If we take into account that all this is different from the research activity, then we can come to the final understanding of learning as a key differentiating concept. The factor of "subjectively significant result", conditioned by the essence of learning, gives the subject of educational-research activity considerable freedom in the choice of methods, means, and techniques of research. Independent search for optimal ways of doing things, even if ready-made patterns and methods are used, develops a healthy need for cognitive creativity and risk taking in the subject. At the same time, the subject of learning is aware that he/she is only learning, that is, trying, finding the right way, and, therefore, the fear of making a mistake does not block freedom of thought in the learner's mind. In addition, teaching and research activities do not require a mandatory public demonstration of the research results, which relieves the student from worrying about the public resonance of the obtained result. This positively affects the motivation of activity and begins to activate not only the intellectual potential of the subject, but also his emotional and volitional resources; optimal conditions for intellectual self-education are created. (Table 1).

As we see, it is in the process of teaching and research activity that the most favorable situation is formed for mutual influence of different levels of individual cognitive style on each other and further systematization of its content. There is a practical embodiment of the thesis put forward by A.M. Novikov: "According to common sense, all three components of personality structure: intellectual, emotional, volitional - must act equally and simultaneously in the learning process", i.e. all personal potential of the subject of learning is involved, and the meaning of activity becomes intellectual self-development and self-education.

Based on the fact that learning and research activity differs from related activities by the determinant of learning, we cannot ignore the connection between the role of learning and research activity in the formation of individual cognitive style of students and the provisions of the competence-based model of student training in higher education today. The competence model, as it is known, assumes that students have developed individual mechanisms for acquiring knowledge, their ability to independently build up cognitive experience and translate



it into the format of competences. Scholars see individual experience as a prerequisite for implementing the competence approach, viewing competence as "a measure of an individual's educational success that manifests itself in his or her own actions in professionally and socially significant situations". Moreover, distinguishing between competences and qualifications, scientists emphasize that the basis of competence is "context-activity self-organization" of students [1, p. 8].

In relation to the system of modern higher education the abovementioned judgment is quite fundamental, because, despite the progressive changes in its content, there is a very inconsistent inclusion of teaching and research activities of students. Being fixed in the content of higher education at the level of its resulting characteristics: "To know, to be able to know, to be able to master" and having a mass-prescriptive character, educational-research activity is included in the procedural-technological component, being as if opposed to the actual content of education, which is expressed in information-academic units. According to the competence approach, the content of education should not be characterized by the sum of knowledge, skills or abilities, but by the presence of elements reflecting individual mechanisms of knowledge acquisition, students' ability to independently build up cognitive experience and translate it into the format of competences.

It is obvious, however, that even with a high level of research motivation and a stable research position, the overall success of educational and research activity depends on the quality of its operational component, which, in fact, is the main focus of innovative changes today. The most general meaning of the mentioned component consists in the sum of knowledge about professional work, mastery of labor operations, development of professional thinking, etc. In a narrow sense, as a component of educational-research activity, the meaning of the operational component consists in the synthesis of the operational components of research and teaching. That is, to the ability to use catalogs, reference and bibliographic literature; the ability to take notes, highlight the main point, write thesis, use empirical methods of scientific research, etc. should be added such skills, which would help students to feel the research process as personally significant, carried out according to individual cognitive style. The balance of the individual and the social, emphasized by us in connection with the reference to the tasks of the competence approach, cannot be unconnected with the sensitivity of adolescence to the formation of an individual cognitive style. At student age, according to scientists, the level of intellectual development increases in accordance with the laws of individual human development.

The core of human intellect of this age "is characterized by a constant alternation of "peaks" and "optimums" of its constituent functions. The criterion of intelligence development is the nature of intra- and inter-functional connections between various cognitive functions, in particular the measure of their integration. According to a fair comment by V.M. Allakhverdov, who denies the position of radical cognitivism, the person is far from being an ideal cognitive system; the properties of his cognitive activity are equally affected by inherited features of intelligence, and those that are acquired by man in the process of socialization. The scientist does not share the position of radical cognitivists, because in it the explanation of all psychical phenomena is based only on the logic of cognition and cognitivism becomes a consistent bastion of rationalism. V.M. Allakhverdov himself defends the highly humanistic meanings of cognition, considering cognition to be the main vector of human development.



Table 1. Teaching as a key concept differentiating research, project-research, and teaching-research activities

ters tiation	h activities	and Research s	onal and research s
e of the activity	ng an objectively new ic result	solving; creation of flytual significant product	self-realization; ng research skills
of activity	ic knowledge in itsto empirical reality	practice; ecology; r art, etc.	range of knowledge, alue of which is ned by the needs of vidual
of activity	ic research		study
s of activity	s of scientific analysis, is; genetic method; al methods, etc.	tion retrieval and ing; surveys; nnaires; empiricaltion; processing of etc.	for information, itss; work with variousof information; of assumption etical method), etc.
f presentations	ented scholarly work	passport	nication, abstract, article, s
connection tog, the process of ng skills	ely low: research skills already be formed	: research skills can oved in the course of ect	he subject of research indirectly learning; s and shapes research
ive value for the s	tion of scientific ; professional ment, career	adaptation; mastering pace	a problematic g situation; formation individual cognitive

4. CONCLUSION

The fact that the structure of teaching and research activity is close to the structure of individual cognitive style is very important. Especially, in terms of coincidence of motivational component of activity and orientation-value component of individual cognitive style, where the transfer of "descriptive" (stated in psychology) parameters of style to the practice of organization of teaching and research activity of modern students.

The closeness of the components of teaching and research activity and components of individual cognitive style help us to understand that "style" characteristics of cognition are a kind of embodiment of institutional characteristics of teaching and research activity, and we have the right to consider teaching and research activity as a means of forming individual cognitive style of students, and, therefore, as a resource of competence model of training specialists in higher education.



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